Before the FEDERAL COMMUNICATIONS COMMISSION

Washington, D.C. 20554

In the Matter of)	1995
Amendment of Part 90 of the	PR Docket No. 93-61
Commission's Rules to Adopt)	
Regulations for Automatic)	DOCKET FILE COPY ORIGINAL
Vehicle Monitoring Systems)	DOOKET FILE OUT TO MICHA

To: The Commission

REPLY TO OPPOSITIONS TO PETITION FOR RECONSIDERATION

In accordance with Section 1.429 of the Commission's rules, the Part 15 Coalition ("the Coalition") submits this reply to several of the oppositions to its petition for reconsideration in the above-referenced proceeding.²

DISCUSSION

I. The Commission Should Clarify That Section 90.361's Presumption Of Non-Interference Applies To Grandfathered AVM Systems.

It is essential that the Commission clarify that Section 90.361's presumption of non-interference applies to grandfathered AVM systems. No LMS proponent has yet offered any substantial rationale to justify excluding grandfathered AVM systems from the "safe harbor" provision of Section 90.361.3 Indeed, as the Coalition has pointed out, the most immediate threat to Part 15 technologies may be from claims

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¹ Contrary to Mobile Vision's supposition, the Coalition is not "principally financed by Metricom." See Mobile Vision Reply to Oppositions (filed June 5, 1995). Instead, the Coalition is comprised of numerous manufacturers of Part 15 technologies used to provide a variety of consumer and business services.

² Amendment of Part 90 of the Commission's Rules to Adopt Regulations for Automatic Vehicle Monitoring Systems, Report and Order, PR Docket No. 93-61 (rel. Feb. 6, 1995) ("Report and Order"). By operation of Sections 1.429 and 1.4(h) of the Commission's rules, replies in this proceeding are due on Wednesday, June 7, 1995. ³ Only SBMS among the LMS proponents addressed this issue specifically, and then only to suggest, without reason, that the presumption should not apply to grandfathered systems until April 1, 1998. SBMS Opposition at 11-12. MFS Network Technologies, Inc., erroneously infers that the Coalition advocates the extension of the presumption of noninterference to non-multilateration LMS systems. See Comments of MFS at 2 n.3. No such implication was intended.

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of interference by existing AVM licensees.⁴ Absent protection against such claims, individual Part 15 technologies may be adversely affected long before true LMS systems are constructed or begin operation.

II. Wideband Forward Links Should Be Prohibited Or Substantially Restricted.

The Coalition urged the Commission to prohibit the use of wideband forward links entirely or, in the alternative, to limit the antenna height and duty cycles of systems employing wideband forward links.⁵ Pinpoint Communications, Inc., in particular, opposes this suggestion on the ground that "wideband forward links confer substantial cost and efficiency benefits for high capacity multilateration LMS systems." Pinpoint proceeds to argue that Part 15 operations will be protected from interference from wideband forward links by the field testing requirement for multilateration LMS ("M-LMS") systems.⁷ Yet, elsewhere in its pleading, Pinpoint calls for the elimination of that same field testing requirement.⁸

In the end, Pinpoint's pleading demonstrates, once again, that would-be LMS providers are not interested in sharing the 902-928 MHz band with Part 15 technologies. When, as here, the Commission has balanced the interests of a number of different radio services in a single band of spectrum, certain restrictions will necessarily be imposed on each service sharing the band. Although an allowance for wideband forward links might be appropriate in a band allocated exclusively for LMS services, there simply is no justification for such links in a shared-use band, particularly given that current LMS proposals demonstrate, incontrovertibly, that M-LMS systems can function quite well using forward links of

⁴ See Coalition Petition at 12-13.

⁵ <u>Id.</u> at 4-7.

⁶ Opposition of Pinpoint at 17.

⁷ <u>Id.</u> at 18.

⁸ Id. at 13-15.

⁹ See AT&T Comments (filed May 24, 1995) at 1-4.

only a few hundred kilohertz. For that reason, in combination with the threat that wideband forward links pose to many Part 15 consumer devices like cordless telephones, the Coalition maintains that M-LMS wideband forward links should be prohibited outright in the 902-928 MHz band or substantially restricted.

III. The Field Testing Requirement For M-LMS Systems Should Be Supplemented With Specific Procedural Requirements.

To ensure the successful coexistence of M-LMS and Part 15 technologies in the 902-928 MHz band, the Commission conditioned grant of each M-LMS license on the licensee's ability to demonstrate through field tests that the system does not cause unacceptable levels of interference to Part 15 devices. As the Coalition noted in its petition for reconsideration, however, the substance of the field testing requirement is undercut by the lack of specific procedures governing the required testing. Moreover, as SBMS points out, the absence of testing guidelines will lead to inevitable disputes, and the "value of spectrum available for auction [will] be degraded." Thus, the Coalition urges the Commission to include within the field testing rules procedures that will ensure that test parameters are reasonably uniform and that the testing covers a reliable sample of the Part 15 technologies in an MTA.

Several of the LMS proponents reiterate their claim that the Commission's field testing requirements are unlawful¹³ and fault the Coalition and others

Amendment of Part 90 of the Commission's Rules to Adopt Regulations for Automatic Vehicle Monitoring Systems, Report and Order, PR Docket No. 93-61 (rel. Feb. 6, 1995) ("Report and Order") ¶ 82.

Coalition Petition at 15. AT&T agreed that it "would be reasonable for the Commission to improve the effectiveness of this process by establishing guidelines for this testing and for what constitutes unacceptable interference, and by requiring applicants to specify measures taken to protect against such interference, including providing any supporting test results." AT&T Comments at 6.

¹² SBMS Opposition at 9.

¹³ See Opposition of Airtouch Teletrac at 2-9; MobileVision Opposition at 7; Pinpoint Opposition at 13-15; SBMS Opposition at 9-11.

supporting the Commission's field testing rules for seeking "protection from interference." ¹⁴ Further, at least one LMS proponent casts allegations of bad faith at the Part 15 industry and asserts that the field testing requirement will be used by Part 15 proponents to "throw up road blocks to the construction and operation of LMS systems." ¹⁵ These attacks, both on the Commission and the Part 15 industry, are unwarranted and unsubstantiated.

As the Coalition explained earlier in this proceeding, the field testing requirement merely ensures that only those LMS systems that can share spectrum efficiently are authorized to use the band under Part 90; it has nothing to do with the priority of authorized services in the band. The Commission's adoption of this requirement is not, therefore, in any manner procedurally or legally defective.

Moreover, the Coalition's interest in efficient spectrum sharing in this band mirrors that of the Commission. Thus, the Coalition's desire for protection against unnecessary interference is no more than is reasonable, and no more than should be expected, given that the Commission has repeatedly encouraged the development of Part 15 technologies in the 902-928 MHz band.

Finally, Pinpoint's concern that the field testing requirement offers the possibility of abuse, although unsubstantiated and unwarranted, is further evidence of the need for a central testing coordinator to represent Part 15 interests.

Appointment of a single entity to coordinate testing with LMS providers would enhance accountability, eliminate the possibility that a single company with a particular objection to an LMS system could delay or prevent the operation of the

¹⁴ E.g., MobileVision Opposition at 7. MobileVision persists in arguing that Part 15 technologies will cause more interference to each other than LMS systems will cause to Part 15 operations. The Coalition disagrees. Part 15 technologies are extremely good band sharers and they will continue to coexist in the 902-928 MHz band with each other and any other service that can share spectrum as well.

¹⁵ Pinpoint Opposition at 14.

¹⁶ Coalition Opposition at 6-8.

LMS system, and reduce the possibility of abuse. The Part 15 Coalition, which broadly represents the Part 15 industry, is best situated to fulfill this role.

IV. The Presumption Of Noninterference For Certain Part 15 Technologies Should Be Strengthened.

Section 90.361 establishes parameters within which Part 15 devices must operate in order to be entitled to a presumption of noninterference to LMS systems. As the Coalition advocated in its petition for reconsideration, the antenna height and power limitations in Section 90.361, which add little to protect LMS systems and which do not further facilitate the unambiguous identification of an interfering transmitter, should be eliminated.¹⁷

Here, too, LMS proponents accuse the Commission of having promulgated this rule unlawfully¹⁸ and chastise the Part 15 industry for overstating the impact of the height and power restrictions on Part 15 operations.¹⁹ Both of these claims are indefensible. The presumption of noninterference that the Commission adopted for Part 15 technologies does not change the priority of services operating in the 902-928 MHz band. The Commission should protect licensed services from what it deems to be excessive radio interference. The Commission's presumption of noninterference in this instance merely defines, in part, what will and will not constitute excessive interference to LMS systems.²⁰

¹⁷ Coalition Petition at 13.

¹⁸ See, e.g., AirTouch Teletrac Opposition at 6.

¹⁹ See, e.g., id. at 5-6. AirTouch mistakenly argues that a presumption of noninterference is unnecessary because interference claims will affect "only the particular device causing the interference." AirTouch Teletrac Opposition at 5. In fact, because it will be impossible or impractical to identify the source of any possible interference to an LMS system, and because of the mobility of most Part 15 technologies, the presumption of non-interference is essential to protect any and all neighboring Part 15 technologies that hypothetically "could" be a source of interference to an LMS system.

²⁰ See Coalition Opposition at 8-10.

In addition, the Commission's determination of the permissible level of interference from unlicensed technologies to LMS systems is quite reasonable. The record in this proceeding is replete with evidence to the effect that, in the vast majority of cases, Part 15 technologies, particularly those operating indoors like most cordless telephones, pose no interference threat whatever to the operation of a well-engineered LMS system. The presumption of noninterference in Section 90.361 recognizes this reality.

Indeed, the presumption of noninterference should be broadened. Specifically, as many parties to this proceeding have noted, including LMS providers, the antenna height restrictions are arbitrary and unrelated to the actual threat (or lack thereof) of interference from Part 15 operations to LMS systems. Thus, the elimination of these restrictions would not significantly increase the potential level of interference to LMS systems, but it would benefit an increasingly large segment of the public that relies upon wide-area, unlicensed wireless services for educational and community network applications, among others, which will be at risk under the rules adopted in the <u>Report and Order</u>.

V. Allowing LMS Systems To Provide Voice Messaging Services Would Unnecessarily Burden The 902-928 MHz Band.

LMS systems generally are prohibited from interconnecting with the public switched network ("PSN"). This interconnection prohibition was intended to ensure that LMS services are not used for "general messaging purposes."²² Aside from the spectrum congestion that such messaging might cause, general messaging by LMS systems (or grandfathered AVM systems for which spectrum was provided free of charge), would put them in direct competition with PCS licensees, including

²¹ See, e.g., id. at 13; Pinpoint Opposition at 11.

²² Report and Order ¶ 26.

entrepreneurial PCS companies, which will pay for spectrum at auction.

Nonetheless, MobileVision and AirTouch Teletrac urge the Commission to allow the "market" to determine the extent to which voice traffic will be carried by LMS systems.²³ This suggestion goes far beyond the intended purpose for LMS, which was to be "principally for vehicle location and monitoring," and would "needlessly increase the interference level" in the 902-928 MHz band.²⁴

As noted above, the 902-928 MHz band is an intensively shared band. All of the radio technologies using this band must make concessions to accommodate the others. Contrary to the wishes of MobileVision and AirTouch, LMS systems operating in this band cannot provide every conceivably marketable service to every potential customer.²⁵ To the extent that general messaging is useful or desirable for mobile customers, those services may be, and are being, provided by other radio services operating in other frequency bands. LMS providers who wish to provide these services should acquire spectrum elsewhere under the same terms and conditions as the entities with which they will compete for general messaging services.

See AirTouch Teletrac Opposition at 13; MobileVision Opposition at 4. Indeed, MobileVision now argues that LMS systems must become general messaging systems apparently because market demand for systems that merely locate and monitor vehicles is so anemic that financing such systems has proven to be problematic. See MobileVision Reply To Oppositions (filed June 5, 1995) at 4.

Pippoint Opposition at 21-22; see also AT&T Comments at 5 ("concerns about the

Pinpoint Opposition at 21-22; see also AT&T Comments at 5 ("concerns about the effectiveness of the new rules to carry out the Commission's intent [that LMS not become a general messaging service] are not groundless").

²⁵ MobileVision attributes to the Part 15 industry a desire to "tak[e] the 'S' out of 'LMS.'" MobileVision Reply to Oppositions (filed June 5, 1995) at 4. On the contrary, the Coalition can abide by true "Location and Monitoring Service. The Coalition is concerned, however, by the efforts of MobileVision and others to use LMS spectrum to provide "comprehensive services to the public, <u>i.e.</u>, location, data and voice services." <u>Id.</u>

AirTouch takes particular exception to restrictions on PSN interconnection for emergency voice communications and "store and forward" messaging.²⁶ AirTouch does not, however, explain how, in an emergency situation, having to dial for assistance, explain the predicament, and identify the location of the vehicle in distress will save either time or lives. On the contrary, a simple "panic button" feature, which would do away with the need for the vehicle operator either to dial or to speak, would provide faster, more reliable, and more efficient emergency communications.

Similarly, AirTouch's objection to a mandatory delay for messages that are to be stored and forwarded is unrealistic. AirTouch argues against any delay because LMS customers require "immediate information on the location and status of their mobiles."²⁷ It is hard to imagine a situation in which a delay of a few seconds, or a minute as the Coalition has suggested, for messages that are to be stored and forwarded will prove critical to the operations of an LMS customer. Indeed, if the customer needs more "immediate" information than that which can be provided after a sixty-second delay, the customer should be using some other voice messaging service for real-time communications.

VI. The Oppositions Filed By Proponents Of Non-Multilateration LMS Demonstrate The Need To Contain Non-Multilateration Systems To Their Current Uses And Services.

Several of the non-multilateration LMS ("N-LMS") proponents object to suggestions made by the Coalition that would restrict the geographic operation of N-LMS systems or reduce the power limits for such systems.²⁸ The objections of these parties are uniformly premised on the fact that N-LMS systems do not now present

²⁶ AirTouch Teletrac Opposition at 13-15.

²⁷ <u>Id.</u> at 15.

²⁸ <u>See</u> Comments of MFS at 2; Opposition of the Association of American Railroads at 5; Amtech Opposition at 10-11; Texas Instruments Opposition at 2-8.

significant interference problems to Part 15 technologies. This fact, however, is inapposite to the Coalition's concern.

The Coalition agrees that most current N-LMS services and Part 15 operations are compatible. The limitations suggested by the Coalition are intended to prevent N-LMS systems from expanding into new services using the relatively high power (30 watts for N-LMS as compared to 1 watt for Part 15) ceiling provided in the rules, and thereby undermining the spectrum sharing scheme embodied in the Report and Order.²⁹

The Coalition's fears regarding the possible future expansion of "N-LMS" are confirmed by the pleadings filed in this proceeding. For instance, The Association of American Railroads asserts that "[r]ailroads use of tag readers extends geographically far beyond rail sidings,"³⁰ tacitly conceding that, without some geographic constraint, N-LMS systems may someday be in such widespread use that Part 15 operations will be forced, as a practical matter, from the 902-928 MHz band. Similarly, although one N-LMS proponent pleads that power restrictions are unnecessary because "[n]on-multilateration LMS systems are inherently special use systems that may not engage in the broader panoply of permissible uses allowed to

A few N-LMS proponents argue that the 30 watt power limitation for N-LMS systems is too restrictive. See Opposition of the Association of American Railroads at 4. This contravenes positions taken by other N-LMS proponents, which have made it clear that "active" tag-reader systems can provide their services using very low power (e.g., one watt) and that more power (e.g., 30 watts) is necessary only for "passive" systems because the tag that is to be read does no have an independent power source. See, e.g., Comments of Amtech at 17, PR Docket No. 93-61 (filed June 29, 1993); Reply to Oppositions of Hughes Transp. Management Systems (filed June 5, 1995) at 6 (30 watts is "more than adequate" for the "vast majority" of N-LMS systems); see also AirTouch Teletrac Opposition at 19 (higher field strength for N-LMS systems should be rejected).

³⁰ Opposition of the Association of American Railroads at 4-5; <u>see also</u> Amtech Opposition at 10 (Amtech tag readers are "already being used for far more than toll plaza and rail applications").

be rendered by multilateration systems,"³¹ others chafe at any definitional restriction on N-LMS for precisely the opposite reason — N-LMS, they argue, should accommodate market needs and provide an evolving menu of services.³²

Thus, the Coalition's fears of the unconstrained expansion of N-LMS are far from unrealistic, and its proffered restrictions are anything but "gluttonous."³³ The Coalition's suggestions, if adopted, will merely help to ensure that N-LMS remains essentially the service that it is today, which in turn will allow for the continued sharing of the 902-928 MHz band by N-LMS systems and Part 15 operations, particularly in the 910-920 MHz "safe harbor," which is of critical importance to Part 15 technologies.

CONCLUSION

The Coalition urges the Commission to reconsider the <u>Report and Order</u> in accordance with the suggestions herein and those in its petition for reconsideration.

Respectfully submitted,

THE PART 15 COALITION

Ву: ₋

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June 7, 1995

³¹ Amtech Opposition at 13.

³² See, e.g., Texas Instruments Opposition at 2-7.

³³ <u>Id.</u> at 5.

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